

## Increasing Quality and Profitability in New York Vineyards Using NEWA, Cornell's Weather and Pest Network

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### Executive Summary:

The multipronged approach to grower training on the use of NEWA resources by the NYS IPM Program, in conjunction with Cornell's regional and area Grape Program Extension Teams, has resulted in savings by New York grape growers from \$1 an acre to over \$50 per acre. NEWA, the Network for Environment and Weather Applications, is a free, web-based weather and pest model information system (<http://newa.cornell.edu/>). While it was well known across the grape industry that the research-based information found on NEWA could help growers in developing and implementing their yearly pest management strategy, there was a resistance on the part of the growers to access the web site. Using a combination of traditional and innovative information transfer tools, the project team was able to dramatically increase the number of growers that not only accessed the information, but implemented it as well.

### Issues, Needs and Audiences

NEWA, the Network for Environment and Weather Applications, is a free, web-based weather and pest model information system ( <http://newa.cornell.edu/> ). This system is operated at Cornell University by the New York State Integrated Pest Management (IPM) Program and the Northeast Regional Climate Center at Cornell University. NEWA collects and delivers weather data from these weather stations via the internet and automatically calculates and displays weather data summaries, crop production tools, and IPM forecasts. NEWA provides grape growers, processors and consultants the information needed to incorporate research-based practices into their vineyard IPM strategy. However, a majority of growers seemed hesitant to access the weather and pest information found on NEWA, leading to less implementation of research-based IPM practices in area vineyards.

### Extension Responses

The NYS IPM Program, in conjunction with Cornell's regional and area Grape Program Extension Teams, provided training on the use of NEWA through a variety of information transfer tools including small grower meetings, twilight meetings, grower conferences, and articles in the weekly e-newsletters and through eNEWA, a daily email sent to subscribers. In the past five years, the NYS IPM Program has participated in 18 presentations and workshops covering all the grape growing regions of New York State. In the Lake Erie Region, once the growing season started, so did the weekly training on the use of NEWA resources at Coffee Pot Meetings held by the Lake Erie Regional Grape Program extension team. NEWA provides grape growers the ability to see weather and pest model information on an hourly basis. Just as varieties grown varies by region, so do the major pests. While the Vinifera grape grower on Long Island is concerned about powdery and downy mildew, Concord growers in the Lake Erie are often

plagued by late season damage by grape berry moth. By using the resources found on NEWA, growers found they could tailor the information they were accessing for their operation. They could determine the number of infection periods for each disease, as well as the severity and timing of the infection periods. These models are forecasted five days out, providing grape growers time to apply accurately timed management strategies for both diseases and insects. For growers who are concerned with Grape berry moth, NEWA has a phenology based degree day model for them to use in timing their management strategies. According to research, it takes 810 growing degree days for grape berry moth to complete their life cycle. NEWA displays not only accumulated growing degree day information but also the status of the grape berry moth and the appropriate pest management strategies such as scouting, economic damage thresholds and treatment options. Growers can access model information at any time during the growing season to get the latest on grape berry moth development. Also, extension teams can access the model information and provide weekly updates to growers through their newsletters, meetings and farm visits.

### Accomplishments and Impacts

An end of season survey was conducted with 100 participants, representing all the major growing regions in NYS. Results of the survey indicate that 69% of participants access NEWA to make use of the weather and pest model information. Of those growers who do not use NEWA, only 6 reported that they had never heard of NEWA. The remainder have heard of NEWA but never visited the site or did not have a weather station close enough to them to feel the information would be valuable. Respondents who implemented the weather and pest model information found on NEWA in their pest management strategies reported savings from \$1 per acre to over \$50 per acre.

### Collaborators:

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